



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/553,137 04/19/00 BLOMQUIST

H TRW(VSSIM)44

PM82/1106
TAROLLI SUNDHEIM COVELL TUMMINO & SZABO
1111 LEADER BUILDING
526 SUPERIOR AVENUE
CLEVELAND OH 44114-1400

EXAMINER

MTI LER F

ART UNIT

PAPER NUMBER

3641

DATE MAILED:

11/06/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application N .	Applicant(s)	
	09/553,137	BLOMQUIST, HAROLD R.	
	Examiner	Art Unit	
	Edward A. Miller	3641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-37 is/are pending in the application.
- 4a) Of the above claim(s) 14-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 3641

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 20-37 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

This is both a new matter situation and a lack of description/disclosure situation, in view of the new changes. While the change to delete "block" might per se be okay, it has not been carried out uniformly throughout, whereby the specification remains not only incorrect, but also inconsistent throughout. The basis for the added amounts as in claim 35, newly recited ingredients as in claim 21, and so on, has not been pointed out. Applicant is required to point out the basis for all such newly claimed terms, or to cancel them.

The nature of the polymer in the invention is critical or essential to the practice of the invention, but it is neither included in the claim(s) nor enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). Note Stewart et al. 5,552,257 at col. 2, lines 45-49, where GAP is a polymer, but that a block copolymer must be derived from at least two different monomers. Similarly, Manser 4,393,199 teaches at col. 5, line 6 - col. 6, line 29, e.g., the reaction to form block copolymers, particularly in col. 1, and that such is distinctly a different thing than reaction of hydroxyl terminal groups with an isocyanate to produce a polyurethane. Further, Ryder 5,847,311 and Manser et al. 5,210,153, both cited by applicant, further teach correct polymer details and language, which teachings are distinctly different from applicant's usage, and in agreement with the examiner's cited references. As to applicant's argued definitions, no copies thereof were received with applicant's reply. A word to the wise: citing references without providing a copy of

Art Unit: 3641

the reference for consideration by the Office is lacking in wisdom and merit. However, a quick look at a corresponding definition in Hawley, 9th edition, shows that applicant's arguments are taken out of context, incorrect and misdescriptive; see the "block polymer" definition. Indeed, the further definitions for polymer and polyurethane, for example, show that applicant has misused language throughout the application regarding polymer details. Indeed, GAP may itself be in the form of a secondary alcohol, as in Manzara et al., unless special steps are taken to form the terminal reactive groups as primary hydroxyl groups, for example at col. 2, lines 23-46, as to the base polymer from which GAP is made. Thus, to recite a secondary alcohol with only one example in a chemical case, is to deprive the person of ordinary skill in the art of what is required to be effective, as to what m.w. alcohols are contemplated for this, whether both (or how many for alcohols with plural hydroxyl groups) alcohol groups are contemplated as secondary or only one such group, etc. Thus, throughout the specification and claims, incorrect language or terminology is used to such an extent that the ordinary artisan is not taught what the invention is, or how to practice it. To refer to toluene (or other aromatic portion of a diisocyanate) diisocyanate as a block is entirely wrong. Likewise, to refer to the isocyanate residue of any simple diisocyanate as a block or segment, as on pages 10 and 12 of the specification, which may be "thermoplastic", is wrong and contrary to ordinary terms of art. While applicant may be his or her own lexicographer, a term in a claim may not be given a meaning repugnant to the usual meaning of that term. See *In re Hill*, 161 F.2d 367, 73 USPQ 482 (CCPA 1947).

The idea of physical crosslinking is also not correctly conveyed to the person of ordinary skill in the art. A single moiety is, by definition, not a poly or block or oligomer entity, it is a monomer. What does this refer to? Compare Johnson et al. '482, col. 2 generally, and lines 42-46. Compare this usage with polyurethane, the elastomer part thereof, in Hawley. The difference

between what applicant does and what Hawley teaches occurs for all polyurethane elastomers is not clear, and is certainly not a basis for perverting ordinary art understood language. It is not clear what appellants do to obtain hydrogen bonding, that does not occur in any polyurethane. As argued, all polyurethanes have urethane units and also have oxygen. This does not reach to discussing hydrogen bonding. In discussing Ziegler in the reply, in contrast to the prior art teachings and in Hawley, it is clear that applicant's attorney, at least, needs considerable education in polymer science, as there is essentially nothing that is argued which is either true, or even makes sense, to one of ordinary skill in the art. This examiner has been examining similar compositions with various polymeric components for over thirty years, and applicant's arguments do not demonstrate ordinary skill in this examiner's opinion. As disclosed in the specification, hydrogen bonding is disclosed. However, there are hydrogen atoms throughout the polymer, and it is not clear what the hydrogen bonding intends for this. Does hydrogen bond to unsaturation? Does hydrogen bond to nitrogen, in azide, e.g., and if so, what is the basis therefore? Could the alleged physical crosslink of hydrogen bonding, which ostensibly allows melt reprocessing, instead be from mere melting? All of the polymer terms, lack proper disclosure basis. These remain exemplary.

3. Claims 20-37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are indefinite for the reasons advanced above, that the language of the claims is incorrect, cannot be understood by the person of ordinary skill in the art, and fails to set forth the metes and bounds of the claimed invention. In claim 20, it is not clear what is required by the "thermoplastic elastomer" language, particularly since the language does not specify any particular "linear energetic polymer", but merely recites what would be required for an ordinary polyurethane

polymer. It is pointed out that “less than 2” functionality for hydroxyl includes zero, the “energetic” polymer recitation does not require any hydroxyl groups, and a secondary diol may form a polyurethane, but this claim language does not reasonably establish proper metes and bounds for the claimed invention. The claim language of “aromatic diisocyanate” and “a linear energetic polymer” likewise (at best) only forms a polyurethane to one of ordinary skill in the art. Thus it is not clear what the claims require; what the metes and bounds thereof are. The terms “segment” and “elastomer” as used lack proper factual basis. The amount of the segment part of the polymer does not make sense. It is not clear if claim 36, e.g., requires a secondary diol, since claim 35 states that it is optional. These remain exemplary of problems found throughout.

4. Claims 20-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zeigler in view of Manzara et al., Manser, and Gomez et al.

Zeigler teaches the basic idea of the claimed invention, an air bag system with a gas generating composition therein that comprises an oxidizer of ammonium nitrate, e.g., a fuel of HMX or RDX, and an energetic binder that may be GAP. Not only is this taught generally, but claim 12, e.g., directly to this was cancelled in this reissue of the original patent. Manzara et al., Manser, and Gomez et al. all teach further regarding GAP polymers, including that functionality may be 2, molecular weights may be varied, that GAP may be both primary or secondary in hydroxyl functionality, and that aromatic isocyanates (Manser, col. 6, line 19) including diphenylmethane diisocyanate (Manzara et al. col. 13, lines 24-30) are suitable chain extension agents. Variation of specific notoriously well known ingredients or amounts would have been obvious to one of ordinary skill in the art. It is well settled that optimizing a result effective variable is well within the expected ability of a person or ordinary skill in the subject art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), *In re Aller*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955).

Art Unit: 3641

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning either this or an earlier communication from the Examiner should be directed to Examiner Edward A. Miller at (703) 306-4163. Examiner Miller may normally be reached Monday-Thursday, from 10 AM to 7 PM.

If attempts to reach Examiner Miller by telephone are unsuccessful, his supervisor Mr. Carone can be reached at (703) 306-4198. The Group fax number is (703) 305-7687.

If there is no answer, or for any inquiry of a general nature or relating to the application status, please call the Group receptionist at (703) 308-1113.

Miller/em
November 5, 2001

A handwritten signature in black ink, appearing to read 'Edward A. Miller', with a stylized flourish at the end.

EDWARD A. MILLER
PRIMARY EXAMINER